

AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below.

In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. A status identifier is provided for each claim in a  
5 parenthetical expression following each claim number. Changes to the claims are shown by strikethrough (for deleted matter) or underlining (for added matter).

Claim History Summary:

10 Claims 1-30 were originally filed.

An Office Action dated September 22, 2003 subjected claims 1-30 to a restriction and/or election requirement.

A response by Applicant filed October 23, 2003 elected Group I, claims 1-21 and withdrew Group II claims 22-30. Applicant further made a provisional  
15 election of the species of Figure 10 for Group I claims 1-16 and 18-21.

An Office Action dated November 7, 2003 noted withdrawal of claims 17 and 22-30. In addition, the Office further withdrew claims 14-16 and 20-21 and rejected claims 1-13 and 18-19.

A response by Applicant filed February 9, 2004 canceled claims 4, 5 and  
20 11 and amended claims 1, 6-10, 12 and 18; thus, claims 1-3, 6-10, 12, 13, 18 and 19 were pending.

In an Office Action dated June 2, 2004, the Office rejected claims 1-3, 6-10, 12, 13, 18 and 19.

A response by Applicant filed September 2, 2004 amended claims 1, 10, 12, 13, 18 and 19 and cancelled claims 4-5, 11, 14-17 and 20-30; thus, claims  
5 1-3, 6-10, 12, 13, 18 and 19 were pending.

In the instant Office Action, the Office rejected all claims.

Claim Summary of Present Response:

Claims 1 and 10 are currently amended.

10 Accordingly, claims 1-3, 6-10, 12, 13, 18 and 19 are pending.

Detailed Listing of All Claims 1-30:

Claim 1 (Currently amended): A heat exchanger comprising:

- a. a core having a thermally variable size; and
  - b. a support structure connected to the core, wherein the
- 5 support structure comprises a tie rod having a planar section, positioned intermediate and amid a first end and a second end of the tie rod and in a flow path for fluid in thermal communication with the core, that thermally deforms in relationship to the temperature of the fluid to accommodate operational variations in the size of the core.

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Claim 2 (Original): The heat exchanger of Claim 1, wherein the support structure thermally deforms at a rate at least similar to a rate of change in the size of the core.

- 15 Claim 3 (Original): The heat exchanger of Claim 1, wherein the support structure thermally deforms substantially the same amount as the thermal variation in the core size.

Claims 4-5 (Cancelled).

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Claim 6 (Previously presented): The heat exchanger of Claim 1, wherein the planar section of the tie rod thermally deforms at a rate so that the deformation

of the support structure is substantially the same as the thermal variation in the core size.

Claim 7 (Previously presented): The heat exchanger of Claim 1, wherein the  
5 support structure comprises a plurality of tie rods, wherein each tie rod has a planar section.

Claim 8 (Previously presented): The heat exchanger of Claim 1, wherein the planar section is substantially aligned with a flow passing the planar section.  
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Claim 9 (Previously presented): The heat exchanger of Claim 1, wherein the support structure further comprises a first strongback and a second strongback positioned about the core, wherein the tie rod is connected between the first and second strongbacks.

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Claim 10 (Currently amended): A heat exchanger comprising:

- a. a core having a first end and an opposing second end; and
- b. a support structure, wherein the core is received by the support structure, wherein the support structure comprises:
  - 20 i. a first strongback adjacent to the first end of the core;
  - ii. a second strongback adjacent the second end of the core; and

- iii. a tie rod having a planar section, positioned intermediate and amid a first end and a second end of the tie rod and in a flow path for exhaust in thermal communication with the core, mounted between the first strongback and the second strongback and capable of applying a compressive
- 5 load to the strongbacks even upon normal operational thermal deformation of the tie rod.

Claim 11 (Cancelled).

- 10 Claim 12 (Currently amended): The heat exchanger of Claim 10, wherein the tie rod further comprises a center section, wherein the center section has a center section thickness, wherein the first end has a first end thickness, and wherein the first end thickness is greater than the center section thickness.

- 15 Claim 13 (Currently amended): The heat exchanger of Claim 10, wherein the tie rod further comprises a set of threads at the first end.

- Claim 14 (Withdrawn). The heat exchanger of Claim 13, wherein the threads have an inner thread diameter and an outer thread diameter, wherein
- 20 the inner thread diameter is greater than the center section thickness.

Claims 14-17 (Cancelled).

Claim 18 (Currently amended): The heat exchanger of Claim 10, wherein the second end has a second end thickness, and wherein the second end thickness is greater than the center section thickness.

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Claim 19 (Currently amended): The heat exchanger of Claim 10, wherein the tie rod further comprises a set of first threads at the first end and a set of second threads at the second end.

10 Claims 20-30 (Cancelled).